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Labour market consequences of international fragmentation of production

Berghuis, E.

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Summary

International competition, lower transaction costs and relatively cheap foreign labour have prompted businesses to reconsider the geographical organisation of production. In the manufacturing industry, this results in an offshore intensity which is a factor 3.5 higher than the macroeconomic average and nearly 7-fold higher than in the service sector. Including by the increased trade in intermediate goods BRIC countries have gained a larger share of world exports. Because of its trading function, the Netherlands benefit from this development. This is reflected in the rising Dutch re-exports, whereby parts and components from Asia are purchased and resold to customers in the European hinterland

However, there have been significant concerns about the impact of offshoring on employment, the structure of production and the knowledge economy. These concerns are understandable, considering the estimate that one fifth of the occupations is vulnerable to offshoring. Especially, low and medium skilled occupations are vulnerable to international displacement. However, empirical studies suggest that the relocation effect plays a marginal role in the dynamics of the Dutch labour market at the macro level.

From a dynamic perspective, another picture arises concerning the impact on employment of international fragmentation of production. International fragmentation of production can be a source of productivity gains, although causality is difficult to determine. Company research indicates that freed up financial resources by international relocation of tasks are used for market creation or to increase market share. Almost all companies indicate that international production fragmentation has a positive impact on output growth and employment in the home country. However, these companies have a relatively large number of employees in research and development tasks. Nevertheless, employees with tasks associated with customization, maintenance, service and manufacturing of critical components are still important.

The employment growth is partly due to additional transaction and orchestration activities. Indeed, international production fragmentation makes the organization of production more complex because more market transactions are needed and various parts in the production chain have to be reconnected. Company research shows that cultural, linguistic, technological, organisational and geographical distance are impediments to execute international market transactions and international orchestration activities on

a productive way. The extent to which these impediments occur, depending on the degree of asset specificity and complexity of a product.

Therefore, transaction activities are increasingly important in the creating of value in companies. Indeed, when at a lower cost, various parts in the production and value chain can be reconnected, more value can be extracted from international production fragmentation. Furthermore, it enables companies making next steps in splitting up the production chain internationally. From this perspective, value creation is not only a question of technical characteristics of the production function. According to the traditional theory of production function, transaction activities comprise part of the so-called black box (the 'hidden' activities regarding the organisation of production). The theory therefore falls short in providing a complete understanding of what international fragmentation of production and transaction management means for the theory of growth. When the demand for transaction labour is made endogenous and when transaction costs are included in the cost equation, the significance of transaction management becomes clear.

By endogenising the demand for transaction labour and by incorporating transaction costs into the cost function, a connection is established between transaction management and value creation. Indeed, as transaction activities are performed at lower costs, the possibility for international fragmentation of production increases. Thus, marginal costs can decrease, and optimal production levels can rise. The effects of relocation can be amply compensated by scaling up production in the transformation sphere and through additional transaction activities. Especially when prices are constant. When not, compensation can (also) occur in other sectors. The two-sector model shows that in the event of constant prices, up-scaling occurs in sectors that have offshore transformation tasks. The compensation for loss of employment thereby increases, and net employment growth is allowed to increase. In the event of variable prices other sectors scale up by which depending on a difference in factor intensities, the categorical income distribution changes.

The efficient execution of transaction tasks therefore becomes more important in considering the competitive position of the Dutch manufacturing industry. This viewpoint does not mean that technical knowledge becomes less important. On the contrary, each reinforces the other. International fragmentation of production results in additional transaction activities, which in some cases require technical knowledge. Furthermore, international fragmentation leads to a strategic reorientation towards development tasks. Therefore, with regard to the competitive potential of the Dutch manufacturing

industry, a combination of technical knowledge and competencies in the areas of international transaction activities are required. On both of these fronts, the labour market shows shortcomings.

International fragmentation of production means that transaction-related competencies and technical knowledge require an integrated application in many diverse occupational situations in the Dutch manufacturing industry. This requires additional attention to international trade and communication skills in polytechnic institutions.